Data Processing in Two Dimensions

- Zero Filling is Very Important to Smooth Data
  - Bruker Parameter $s_i$ is Final Data Size
  - Number of Points in Row or Column is Increased from $t_d/2$ to $s_i$
    - Typical 2D Matrix Size: $s_i(F_2)=2048; s_i(F_1)=1024$
- Window (Multiplier) Function Must Be Used to Smooth End of FID
  - Abrupt End of FID ("Truncation") Leads to "Wiggles" in Baseline Around Crosspeaks
  - Sine Function Comes Smoothly to Zero at 180° Point
  - Start Point of Sine Function Typically 90° (Maximum): "90°-Shifted Sine-Bell"
    - For Strong Resolution Enhancement, Start Sine Function at 0°: "Unshifted Sine-Bell"
- Phase Correction in Two Dimensions
  - Phase Error in $F_2$ Leads to Horizontal "Streaks"
  - Phase Error in $F_1$ Leads to Vertical "Streaks"
  - A Single 1D Slice (Row or Column) Typically Has Only One Peak: Cannot Set Both $PHC_0$ and $PHC_1$
  - Bruker Allows Simultaneous Display of Three Slices (3 Rows or 3 Columns) for Phase Adjustment
  - Phase Correction is Applied to All Rows (or All Columns)